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June 1918.

BUY
UNITED STATES GOVERNMENT WAR-SAVING STAMPS.

THE SUPREME MOMENT!

PEACE WITH VICTORY IS THE ONLY PEACE! NOT ALONE FOR THE UNITED STATES BUT FOR THE WIDE WORLD! MOLOCH, THE HUN, HAS PASSED THE PINNACLE OF HIS SELF-STYLED SUCCESSES - AND DRUNKEN WITH THE BLOOD OF INNOCENTS - THE REACTION HASTENS! THIS, THEN MARKS FOR HIM THE BEGINNING OF THE END! FROM NOW ON HE MUST BE BEATEN BACK-- EVEN THROUGH THE VALLEY OF THE RHINE, FROM MAYENCE TO COLOGNE! THE BITTER CUP THAT BELGIUM, FRANCE AND SERBIA HAVE DRAINED, MUST BE PRESSED ON THE ENEMY MANYFOLD.

BE ALERT!

REMEMBER THE ENEMY--- NEVER SLEEPS.

TO IMPERIL THE INTEGRITY OF THE STRUCTURE OF THE AMERICAN STATE -
 WOULD BE THE GREATEST CALAMITY THAT COULD BEFALL THE WORLD!

BOOKS FOR YOUR SOLDIERS AND SAILORS.

The book receipts from the recent book campaign of the American Library Association have far exceeded all expectations, nearly 4,000,000 volumes having been collected. Some classes of books however are still needed. For example, sets of Baedeker's guidebooks have been requested to be placed on the transports sailing from this country. These will "help win the war" by giving the men detailed information which will enable them to adapt themselves more readily to their new environment. Also books in foreign languages are much needed. These are becoming scarce in this country and it is almost impossible to buy them. Thousands of the men in training camps are foreigners with little or no ability to read English and the camp libraries wish to supply books which they can read. A recent census at camp Devens, Ayers, Mass., given in the American Leader magazine shows 40 different languages in use, ranging from French and Italian in the majority, to Maltese, Egyptian and Gaelic. There is also special demand for magazines such as Punch, Judge, Life, Popular Mechanics, Popular Science Monthly, Scientific American, Atlantic Monthly, Harper's Magazine, Scribner's, Century, etc. Monthly story magazines of more than transient interest are especially desired and the public is urged to forward them through the U. S. Post Office Department.

BOOKS GIVEN BY MEMBERS OF THE BUREAU OF ENTOMOLOGY IN WASHINGTON MAY BE BROUGHT TO THE BUREAU LIBRARY OR TO THE LIBRARY OF THE DEPARTMENT OF AGRICULTURE.

METHOD OF TAGGING TREES.

In any rearing work at Falls Church it has been necessary to tag large sections of wood which lie on the ground from one to two years. Under such conditions, writing on wooden tags soon becomes illegible, while copper tags are not only expensive but not large enough for sufficient data. It is also difficult to write on copper tags.

The ordinary linen frank has been used very successfully. These tags are first

soaked several days in water to remove the sizing and then dried and smoothed with a hot flat iron. On this surface the data is written with India ink using a round-pointed pen. The ink soaks in but does not run. Such a tag will last a year or longer under ordinary atmospheric conditions. For longer periods or under conditions where the tags come in contact with the ground they are coated with paraffin after labeling. This can be done by dipping in paraffin or, better still, keep on hand a mixture of gasoline and paraffin (proportion 1 quart of gasoline to 1/2 pound of paraffin) into which the tags can be dipped. The gasoline evaporates leaving a film of paraffin. Tags treated in this manner last exceptionally well. Often they become coated with mud but after washing, the ink shows up clearly. (F. C. Craighead.)

LIBRARY.

Miss Mabel Colcord, Librarian.

LIBRARY WAR SERVICE

What has been done:

36 camp library buildings erected.
117 librarians now in the field.
464 camps, stations and vessels served.
109,403 selected books sent overseas.
300,000 books purchased, largely technical.
1,349,000 gift books sent to camps and stations.
5,000,000 magazines (including Burleson magazines)
distributed systematically.

(Library Journal, June 1918)

NEW BOOKS.

Cary, C. B. Catalogue of birds of the Americas. Chicago, March, 1918. Part II.
312p. col. pl. (Field museum of natural history. Publication 197.
Zool. ser. v.13)

Coons, G. H. The plant diseases of importance in the transportation of fruits
and vegetables... By G. H. Coons and Ray Nelson. Chicago, 1918.
59p. illus: (American railway perishable freight association
Circular no. 473-A)

Cross, H. E. Experiments with emulsions for protecting camels against the
attacks of blood-sucking flies. Calcutta, 1917. (Pusa. Agr.
Research Inst. Bul. 76.)

Hawley, Ralph C. and Hawes, A. F. Manual of forestry for the northeastern
United States, being vol. I of "Forestry in New England,"
revised. N. Y., 1918. 281p., illus.
Forest insects and fungi, p. 104-135.

Hiss, P. H. and Zinsser, Hans. A text-book of bacteriology. N. Y. and London,
1918. 852p. illus.

London, Royal society- Grain pests war committee. Report 1, May, 1918. 24p.
Report on the effect of air-tight storage upon grain insects.

- McAtee, W. L. A sketch of the natural history of the District of Columbia, together with an index of the U. S. Geological Survey's 1917 map of Washington and vicinity. Washington, May 1918. 142p. map. (Biological society of Washington Bulletin 1)
- Mass. Agr. College Extension Service. Extension Circular 70. *Euopena* corn borer, by H. T. Fernald. May 1918.
- New Jersey State Dept. Agr. Circular 15, pt. 1-15. Profitable bee keeping, by Elmer G. Carr. 1918.
- Official table of distances for the guidance of disbursing officers of the army charged with payment of money allowances for travel. By authority of the Secretary of War. Washington, 1918. 674p.
- Richards, P. B. The history and present position of white ant treatment in Malaya. In Agr. Bul. Federated Malay states v.5, no. 8 and 9, p. 338-348, May and June 1918.
- Rivista coleotterologica italiana, organo mensile per la sistematica generale dei coleotteri. Camerino, 1903-1914. 12v.
- Seymour, E. L. D. Farm knowledge, N. Y., 1918. 4v, illus.
v.2, p. 441-448 Principle of plant injury and its control;
p. 449-503 Plant diseases and insect enemies; p. 503-525
Farm methods for plant protection. By Frederick D. Heald.
- Sociedad entomologica Espana. Boletin. Jan. 1918. v.1, no. 1-2. Zaragoza, 1918.
- U. S. Dept. of Agriculture. List of workers in subjects pertaining to agriculture and home economics... 1917-1918. Washington, 1918 89p.
Part I, United States Department of Agriculture.
Part II. State Agricultural Colleges and Experiment Stations.
- Wallis-Tayler, A. J. The preservation of wood. N. Y. 1918. 344p., illus., pl.
Destruction of wood by decay and ravages of insects, p. 19-48.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS.

W. D. Hunter, Entomologist in Charge.

The following men have been given temporary appointments in tobacco insect investigations: S. F. Grubbs, J. W. Hill, Scott C. Lyon, D. M. Rogers. In cotton insect investigations, Turner Davis and C. M. Brickwell.

Mr. T. E. Holloway made a short trip to Miami, Florida, to confer with Mr. Moznette concerning injury to castor beans. Following this preliminary conference, Mr. Max Kisliuk was assigned to the investigation of insects affecting castor beans.

Mr. Holloway will make an extensive investigation of the parasites of the sugar-cane moth-borer (*Diatrara saccharalis crambidoides*) in Cuba, starting about July 1. He expects to be able to gather a large number of parasites and ship them to New Orleans to be released.

Mr. E. A. McGregor recently made a preliminary investigation of cotton insects in a new cotton section in the San Joaquin Valley of California. Mr. McGregor made a number of very interesting notes on insect occurrences which will be of value as indicating possible insects to be later expected in this new cotton section.

W. DWIGHT PIERCE
Acting in Charge Southern Field
Crop Insect Investigations.

DECIDUOUS FRUIT INSECT INVESTIGATIONS.
A. L. Quaintance, Entomologist in Charge.

Mr. Preston W. Mason, a graduate of the Michigan Agricultural College, has been appointed Scientific Assistant, and will be engaged in statistical work in connection with codling-moth investigations, with headquarters at Washington, D. C.

Mr. Chester I. Bliss has been appointed Field Assistant and will assist Mr. G. A. Runner in connection with grape-insect investigations, with headquarters at Sandusky, Ohio.

Mr. F. L. Wellman has been appointed Field Assistant and will assist Mr. Dwight Isely in connection with apple-insect investigations, with headquarters at Bentonville, Ark.

Messrs. H. S. Saidel, C. H. Alden and A. D. Tilton have resigned to enter the army service.

FEDERAL HORTICULTURAL BOARD
C. L. Marlatt, Chairman.

A legal situation relative to plantings of cotton in the quarantined areas in Texas in violation of the order prohibiting such plantings has been cleared up somewhat by court action and by decisions of the Attorney General's Office of the State of Texas. Plans are now under way to condemn as public nuisances and to have destroyed all cotton planted in cotton-free zones in violation of the Proclamation of the Governor of the State designating such zones. The fact that this cotton was planted in violation of the law, even though no penalty for such planting is provided, invalidates any claim of the planters for damages for destroyed cotton. Such planting, in violation of the law, while considerable, represents, in fact, but a very small percentage of the farms within the quarantined areas, and, undoubtedly, the general sentiment of the district and of the State is for a rigid enforcement of the law.

Mr. Busck has recently returned from another of his periodic trips to Mexico and reports that the research work on the pink bollworm is making good progress. It seems to be fully determined that the insect does not begin its breeding operations until the squares and bolls are developed on the cotton, and that most, if not all, of the moths emerging early in the year perish.

Mr. Tejada, who has been an assistant at this station for the first half of the year, has resigned to look after his private estates. He has had charge of the field work with these substitute crops, and his services have been of great value to the station. At the invitation of the Board, he came to

Washington and gave a full report on his work. He states that, with the prospect of peanuts yielding 50 bushels to the acre, the peanut crop will prove more valuable than cotton. He reported 50,000 acres planted to wheat, with a possible yield of from 40 to 60 bushels per acre! Soy beans do well, but have a limited market. Potatoes also do well in the Laguna. The damage from the pink bollworm in the Laguna will necessarily always be very heavy on account of the long fruiting season of the cotton which runs from July until December.

Bids have been received and contracts are now being made for the construction of five fumigation houses along the Mexican border for the disinfection of cars and freight entering the United States from Mexico. Four of these houses will be located in railroad yards; viz, a fifteen-car house at Laredo, Tex., an eight-car house at Eagle Pass, Tex., a six-car house at Brownsville, Tex. and a one-car house at El Paso, Tex. The fifth is a house for fumigating wagons and motor trucks and is to be built near the International boundary, about three miles from Del Rio, Tex. The plans and specifications for these houses have been drawn for the Board by the Architects of the Treasury Department. The buildings will be of brick, except the one at Del Rio, which will be of wood, and each house will be equipped with apparatus and plant for the manufacture and distribution of Hydrocyanic acid gas. This undertaking represents the largest disinfection project which has ever been undertaken in this country, and probably the largest in the world. These houses, together with the plants for generating gas, will cost approximately \$50,000. A charge will be made for fumigation to cover the actual cost for materials and labor. The supervision of this work is under the charge of R. Kent Beattie.

The Board has recently had a visit from Mr. H. Ballou, who has just returned from some sixteen months study of the pink bollworm in Egypt for the Egyptian Government. His experience in Egypt has developed a lot of interesting facts which will be of service to the pink bollworm work in this country, and an effort will be made to secure his release from his duty in the Barbados for a period of six weeks or two months so that he can make an examination of the pink bollworm in Texas and Mexico for this Department, and be able to give us such advice as is possible as a result of his experience in Egypt.

Dr. Norman Perrine has been appointed an Inspector of the Federal Horticultural Board, and is stationed in Washington. Mr. Perrine is a chemist by training and will assist in the inspection of plants and seed for propagation imported by this Department and will be charged, particularly, in connection with this inspection, with the research work on the technical requirements of disinfection with hydrocyanic-acid gas or other insecticides.

FOREST ENTOMOLOGY.

A. D. Hopkins, Forest Entomologist.

Mr. S. A. Rohwer is spending several days at Kanawha Station, West Virginia in the field study of Forest Hymenoptera, particularly gall making species.

Mr. C. T. Greene was detailed for about two weeks to the New England Field Station at Lyme, Conn., for investigation of Forest Diptera. He is also to visit the Cambridge Museum of Natural History to examine types of Forest Diptera.

Mr. F. C. Craighead started late last month for a tour of the country of about two months' duration to cover the following points: Investigation of root borers affecting oak trees at Kanawha Station, West Virginia and throughout that

State; investigation of insect damage to logs and methods of prevention and control in Mississippi and Louisiana; study of mesquite cordwood insect problem in Arizona, and study of Dendroctonus control work in California, Oregon and Colorado.

Mr. Carl Heinrich left on the first of the month to spend about a month in investigation of the pine needle miner (Recurvaria milleri Busck) in the Yosemite National Park and the pine tip-moth (Evetria sp.) in the nurseries of the Nebraska National Forest.

Mr. Middleton spent about ten days, near the middle of the month, at Lyme, Conn., securing comparative dates of emergence and development of sawfly larvae and gall-making cynipids.

Miss Ada F. Kneale, University of Colorado, B.S., 1918, has been appointed as Scientific Assistant, pending certification, and assigned to the Eastern Field Station. She will assist Mr. Heinrich in life-history studies of forest Lepidoptera.

STORED PRODUCT INSECT INVESTIGATIONS
E. A. Back, Entomologist in Charge.

Mr. R. L. Clute, for the past six months Special Field Agent at Gainesville, Fla., will sever his connections with the Bureau on August 1st. At present Mr. Clute is putting into form for publication, some of his observations regarding corn storage in Florida,

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If plans carry, 300 tons of cowpeas, a portion of the over-production of last year in the South, will be shipped from Baltimore to Europe in the near future. It is planned to treat these peas by heat to kill the weevil.

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Mrs. Sibyl Swegman, recently appointed artist, has been making illustrations in India ink wash work.

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Mr. F. B. Milliken stationed at Amarillo, Texas, has continued his emergency work during the past month. He has inspected warehouses and mills at various points in Texas and has been able to give much needed advice regarding the protection of food supplies.

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This office has had assigned it a large room, one of a series of twenty in a block recently taken over by the Government at the Bush Terminals, New York City, for the use of the offices of the Quartermasters' Department. This room has already been fitted with shelving and will be furnished as speedily as possible by the Storage Officer in charge in accordance with plans formulated by Mr. A. B. Duckett. Mr. Duckett will return to New York directly after July 4th.

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Prof. R. W. Doane who has been collaborator of stored products during the past six months under the fund for stimulating agriculture, has forwarded copies of reports made by him to the Federal Food Commission. These reports cover all the work that Prof. Doane has done with insects affecting stored products and indicate that damage caused by these pests is exceptionally great on the Pacific Coast and that his work is not only needed but is appreciated by mill and warehouse concerns. It would seem that Pacific Coast concerns are more seriously troubled by stored product pests because of the even climate that does not completely check insect development even during the winter. Naturally Prof. Doane's work has been confined largely to the large centers such as San Francisco and Los Angeles. This work has been undertaken by Prof. Doane as a patriotic service to 'his Country in addition to his regular University work.

TROPICAL AND SUBTROPICAL FRUIT INSECT INVESTIGATIONS

C. L. Marlatt, Entomologist in Charge.

At the request of Mr. Wilmon Newell, \$1,000 has been allotted for cooperative work in the extermination of the banana root borer in Florida. Mr. Swartsel, of Mr. Newell's force, is in charge of this work,

Mr. Moznette has been taken away from his regular project temporarily to investigate army worm and other insect damage to the important castor-bean crop which has been developed in Florida to supply war needs. This project comes under southern field crops and will doubtless have an expert regularly assigned to it in the near future.

Mr. Harry F. Dietz who has been transferred from the Board to the Bureau, effective June 15, has been placed in charge of the Panama Canal Zone project, and has already left for Panama.

Mr. Morrison will shortly resume his field work under the project of which he has charge in relation to the entomological explorations of tropical and subtropical countries. The plan for work this year covers the Lesser Antilles, including Trinidad, and to whatever extent possible in Central American countries.

Mr. Mann has returned from Cuba where he has made large collections and secured valuable information in reference to tropical and subtropical pests, particularly the black fly. He is now at Bussey Institute working in cooperation with Doctor Wheeler on the determination of the ants collected in Cuba on his trip.

Mr. Ernest R. Barber will complete his work in relation to the Vedralia and the fluted scale in Louisiana by the end of this month. This work has been cooperative between this Bureau and the State of Louisiana and City of New Orleans and has had a very successful outcome. On July 1 he will return to his original assignment under Doctor Hunter.

Mr. Pemberton's work in Honolulu with the parasites of the fruit and melon flies perhaps can be best illustrated by extracts from a recent letter received from him:

"A field trip to the Kona coffee district extended from April 19th to May 17th. I found conditions so interesting that the trip was extended longer than originally intended. Perhaps the most interesting situation now in evidence

in the district is the control exerted over the melon fly by the newly introduced parasite Opius fletcheri. This parasite was liberated in the district in June, 1916. At the present time the fly is so reduced there that it is in no sense destructive. I examined carefully 400 cucumbers of various sizes, 28 young watermelons, 20 young muskmelons, 21 young pumpkins, and 2,456 ripe wild cucumbers, Momordica sp. I found only one egg puncture in one of the cultivated cucumbers, which was a surprising and wholly unexpected condition. None of the cucumbers had scars or deformities that are so characteristically seen in all gardens where the melon fly is present. None of the melons or the pumpkins were touched by the melon fly, nor could any injured or stung blossoms be found. The wild Momordica grows luxuriantly over large areas in Kona. Of the 2,456 fruits examined, 266 contained eggs or larvae of the melon fly. Most of these infested ones were found in an isolated spot in the center of an overgrown, abandoned cotton field. From the infested Momordicas a total of 676 melon fly larvae were secured. These were heavily parasitized by O. fletcheri, the parasitism amounting to 96.9%. Those engaged in gardening in the district are very much pleased with the new condition and report all along the line very favorably. I consider this control to be the result of two factors. One is the work of the parasite and the other is the presence of the great quantities of wild Momordica everywhere. The Momordica fruits heavily throughout the year and is certainly a very favored host of the melon fly. The fruits are universally small, seldom being more than an inch in diameter. This permits the fly to be present constantly and in fruits small enough to allow the parasite to reach most of the larvae. The parasitism is thus high and the flies that do reach maturity have a great abundance of a natural host constantly at hand to absorb their eggs. The cultivated gardens scattered through the district are thus attacked by a greatly reduced number of flies and these are not necessarily in a condition to deposit an excessive number of eggs for they must be continually ovipositing in the wild cucumbers in all directions, both in and about the gardens. In May, 1916, I examined 442 wild cucumbers at the same locality where the above were examined and just a few weeks prior to the liberation of the parasite. Of these, 248 were well infested. The comparison with the present condition is interesting. Opius fletcheri is well established about Honolulu now and has checked the melon fly to some extent. The Chinese gardeners claim that they are not having quite so much trouble now as before, but just how much the improvement is I can not say. I am making some investigations of this now.

***** The fruit fly is not very destructive in the coffee district at present. The infestation of the coffee cherries is really low and is slightly lower than I have ever seen it before. From 13,601 berries collected, a total of 12,024 fruit-fly larvae emerged. This is an average infestation of 0.88 larvae per fruit. In January, 1917, from 13,057 berries a total of 14,715 fruit fly larvae were secured. On this trip I found the parasitism very high. The total parasitism averaged 92.9%, distributed among the three species of parasites as follows: Opius humilis 16.7%, Diachasma tryoni 68.7% and Diachasma fullawayi 7.7%. The coffee was largely picked by the time I arrived so that the parasitism in the larvae still present in the unpicked berries was no doubt somewhat higher than it would be before picking time. Still the infestation was not high.

Our paper on the interrelations of the fruit-fly parasites here has caused considerable discussion among certain of the entomologists in Hawaii, notably those who were instrumental in introducing the parasites. In order

still further to strengthen our position on this subject I made a series of dissections of fruit-fly larvae collected from coffee in Kona, and the results have exactly confirmed our original contentions as regards the suppression of Opius humilis by the Diachasmas. I found no new changes in the relationships of these parasites when occurring in the same fly larvae.

***** Another careful examination of the guavas growing in Kona district was made to establish further proof of the preference of the fruit fly for coffee over the guava. A total of 433 overripe guavas were examined from trees growing along paths in the center of a coffee plantation. Only 3 of these showed any signs of infestation or bore the characteristic egg punctures. A total of 184 very ripe guavas was then examined from trees growing a mile below any coffee plants. Of these 119 were well infested with eggs and larvae of the fruit-fly. In the first case the fruit-fly had undoubtedly preferred the coffee to the guavas, and in the second case no other host occurred within a mile of the guavas.

A new host of the fruit-fly has been found by Mr. O. H. Swezey. This is Capparis sandwichiana, a native cruciferous shrub, the small fruits of which are attacked by the fruit-fly and the larvae develop to maturity.

The green scale of coffee (Coccus viridis) which has been more or less injurious in the Kona coffee district for a number of years is at present so completely checked by a fungus Ophionectria sp. and 3 or 4 species of parasites, the determinations of which I am not yet certain, that it is in no way destructive. I found no coffee plants in the district that had but small numbers of the living scales on some of the branches. As I understand that complaints have reached Washington about the destructiveness of this scale in coffee in the Kona district and that requests have been made for the assignment of a specialist to study methods of controlling it, I am reporting the present effect of this natural control and will venture to predict that these checks that are at present so effective can always be depended upon to avert any disastrous outbreak of the scale in the future.

An investigation was made in Kona of the extent of parasitism of the pink bollworm. It was very low. From 610 larvae or pupae collected only one species of parasite emerged. This parasite Parasierola emigrata is not effective. Sixty individuals emerged from the collected material and as from 5 to 10 develop on a single bollworm larva, this is a very low degree of parasitism. In March a total of 200 mature cotton bolls collected about Honolulu produced 400 adult bollworms, 1 Chalcis obscurata, 3 Pteromalids (Sp. not determined), 31 Chelonus blackburni and 1 Pimpla hawaiiensis. This is also a low degree of parasitism. The parasites are interesting however, particularly the Chelonus, which is a braconid and attacks the egg and later emerges from the mature larva. Other parasites are recorded on Oahu.

***** The torpedo bug, Siphanta acuta, a fulgorid which was once destructive here on coffee, mangoes, and guavas, owing principally to the honeydew secreted, is perfectly controlled by an egg parasite, Ananomerus pusillus, introduced about 1905. Having had a good opportunity in Kona to examine a quantity of egg masses of the Siphanta, I did so, with interesting results. Fifty-four egg clusters comprising a total of 2,489 eggs were examined under the microscope. Of these, 1,929, or 77.5% were parasitized by this parasite. It is the only parasite recorded here of the Siphanta. The Siphanta was formerly a

nuisance, from what I can gain in conversations with old residents, and it is now completely controlled."

EXTENSION ENTOMOLOGY.

J. A. Hyslop, Entomologist in Extension Work.

Mr. Ward H. Foster, Special Field Agent in Apiculture, for the region of Washington, Oregon, Idaho and Montana, has resigned.

Mr. George A. Hummer has been appointed Special Field Agent in extension work in Apiculture, and will be assigned to work in Mississippi to take the place vacated by Mr. R. B. Wilson who has resigned to enter the Army.

Mr. C. N. Ainslie of the research staff of the Office of Cereal and Forage Crop Insect Investigations has been assisting the extension force in North Dakota in their grasshopper campaign until a suitable man can be obtained for this work. This has been made necessary by the resignation of Mr. Perry W. Fattig who has accepted a teaching position in Florida.

Mr. E. F. Atwater, Special Field Agent in Apiculture, covering the district of California, Arizona and New Mexico has resigned on account of bad health.

The work being conducted by Mr. R. L. Clute in the control of stored-product insects in Florida will be discontinued July 1.

Mr. D. A. Davis now doing apiculture extension work in Iowa has been assigned to work in Indiana on a financially cooperative basis.

Mr. J. H. Morrison has been appointed a Special Field Agent in the control of cereal and forage insects and has been assigned to work in Colorado to take the place of Mr. C. K. Fisher who is seriously ill and confined to a hospital. When Mr. Fisher recovers he will be assigned to research work at the Wellington, Kansas laboratory.

Dr. F. L. Thomas who has been carrying on general extension work in Alabama will return to his former duties on the station staff on July 1.

Mr. W. A. Thomas formerly Assistant State Entomologist in South Carolina has accepted appointment in the general entomological extension work and has been assigned to North Carolina.

Mr. George H. Vansell has been appointed Special Field Agent in Apiculture extension work and has been assigned to South Carolina.

Mr. F. W. Humphrey has been appointed Special Field Agent in the control of insects affecting domestic animals and is now at the Dallas, Texas Laboratory receiving instructions under Mr. Bishopp.

Mr. A. LeRoy Strand who has been working on grasshopper control in Montana, resigned to enter the Navy.

CEREAL AND FORAGE INSECT INVESTIGATIONS.
W. R. Walton, Entomologist in Charge.

Mr. A. F. Satterthwait is conducting a control campaign for chinch bugs at Lawton, Oklahoma, in order to save the experimental plots of corn which are run at that point by Dry Land Agriculture of the U. S. Bureau of Plant Industry. He reports excellent progress and it is now believed that most of the plots will be saved.

Mr. R. A. Vickery is at present planning an extensive campaign of investigation in connection with the corn earworm (Chloridea obsoleta Fab.) in Texas. Experimental plots are being prepared with a view to conducting both life history and control work. He reports Feltia annexa larvae as being injurious and abundant. He also reports that a great deal of injury has occurred from the adult beetles of Lachnosterna farcta and L. cribrosa.

Mr. F. H. Gates, who was for several years connected with the range caterpillar work in New Mexico and the forage insect investigations at Tempe, Arizona, but who afterwards resigned from the service, has been reinstated and detailed to assist in the investigations of the European corn stalk borer in eastern Massachusetts, under the leadership of Mr. D. J. Caffrey. Mr. Gates reported for duty May 21.

Mr. J. H. Morrison has been appointed Special Field Agent in connection with the grasshopper control work in the state of Colorado, and entered upon his duties during the month of May.

Mr. Perry W. Fattig, who was engaged as Special Field Agent in connection with grasshopper control work in North Dakota, has resigned to enter State work in Florida.

Mr. A. L. Strand, who has been conducting extension work in Montana, reports rather general injury to newly sown wheat in Yellowstone, Cascade, Choteau, Fergus, and Carbon counties, by what is apparently the seed corn maggot, (Phorbia fusciceps Zett.) Oats has not been attacked. Mr. Strand has recently been granted an indefinite furlough, having entered the U.S. Naval Reserve.

Mr. C. W. Creel and staff, who have recently finished a vigorous campaign for the control of the clover flower midge, are planning to devote the greater part of their time from now on to grasshopper investigational and control work. The control work on the Coulee cricket, (Peranabrus scabricollis Thos.), conducted by Messrs. Creel, Burrill, and Reeher, has proven to be very successful. Communications received from county commissioners of the infested region indicate that the work performed is of a very satisfactory character.

Mr. J. R. Horton and staff are at present engaged in securing the results of the Hessian fly plot work, as wheat is being harvested in most of the territory under investigation. It is expected that the inspection will be completed by July 1.

The field laboratory formerly located at Wellington, Kansas, has been moved to Wichita. Mr. Horton's present address is 126 South Minneapolis Street.

Mr. V. L. Wildermuth recently made an inspection trip into northeastern

New Mexico and surrounding territory for the purpose of ascertaining the present condition of the range caterpillar (Hemilencia oliviae Ckee.) infestation. The region formerly inhabited by this pest has suffered from a severe drouth for nearly two years past, and the infestation is at a very low ebb, it being almost impossible to find specimens of the insect except in the egg stage.

Mr. T. D. Urbahns reports that general grasshopper injury in California seems imminent, and he and his assistant, Mr. C. M. Packard, are planning to devote most of their time to this work during the next few weeks.

Mr. J. S. Wade has returned from a trip to Boston, Massachusetts, where he inspected the European corn stalk borer (Pyrausta nubilalis Hubn.) work in company with Mr. Caffrey and staff.

Mr. Robert Fouts has been appointed Field Assistant, and will devote the summer months as an assistant in the Hessian fly work at Carlisle, Pennsylvania.

Mr. C. N. Ainslie recently made a trip of inspection throughout North and South Dakota, in cooperation with the State Directors of Extension, and reports that the grasshopper situation in these states is such as to indicate a considerable degree of infestation within the next few weeks.

Mr. D. J. Caffrey reports larvae of the European corn stalk borer as being very numerous in stems of weeds throughout the infested area, and that it is also beginning to attack corn, feeding on the leaves and blossoms and the interior of the blossom stalks. Mr. R. E. Snodgrass at present is in eastern Massachusetts preparing illustrations of the various stages of this pest.

CONTRIBUTIONS ARE SOLICITED.

Funds are needed for knitting, surgical dressings, garment making, housing, entertainment, books, scrap books for hospitals, and war orphans. CONTRIBUTIONS ARE DESIRED FROM ALL EMPLOYEES OF THE BUREAU, BOTH IN WASHINGTON AND IN THE FIELD, ALSO FROM THEIR FAMILIES AND FROM ANY ONE INTERESTED IN THE WORK.

Send your contributions to Mrs. H. S. Bishop, Bureau of Entomology, and specify, if you have any preference, to what purpose you desire the contribution to be put. NO AMOUNT IS TOO SMALL!

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